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Exploring the future science of space-based gamma-ray observations ELIZABETH HAYS, NASA/GSFC — Gamma rays probe an unique, dynamic and extremely broad range of astrophysical phenomena. Their observation probes the sites and mechanisms of nature's most powerful accelerators, sheds light on possible characteristics of dark matter and tests the limits of our understanding of matter and energy in the Universe. Past and current observatories have made significant advances in part of this waveband, but key areas remain largely unexplored. The Gamma-ray Science Interest Group (GammaSIG) exists to provide metrics and assessments to NASA in regard to current and future needs of the gamma-ray astrophysics community. The GammaSIG, as a part of the Physics of the Cosmos Program Analysis Group, provides a forum open to all members of the gamma-ray community. Currently, this group is exploring science goals for future space-based gamma-ray observations through the development of open workshops on both science and instrumentation leading to a summary of available paths for continued high impact gamma-ray astrophysics in the coming years.

> Elizabeth Hays NASA/GSFC

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